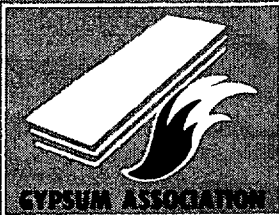


Standard Specifications

Gypsum Wallboard Finishes



Gypsum Association

201 NORTH WELLS STREET • CHICAGO 6, ILLINOIS


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A97.1-1958
UDC 691.31

STANDARD SPECIFICATIONS

for

GYPSUM WALLBOARD FINISHES

Approved as
AMERICAN STANDARD
by The American Standards Association
October 29, 1958

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THE AMERICAN INSTITUTE of ARCHITECTS
and the
GYPSUM ASSOCIATION

SGP 0003249

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SPECIFICATIONS FOR GYPSUM WALLBOARD FINISHES**

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AMERICAN STANDARD SPECIFICATIONS for GYPSUM WALLBOARD FINISHES

NOTE:—These specifications are intended to describe minimum requirements for application over wood nailing members. See Appendix for general information and recommendations pertaining to related work.

1.00 GENERAL PROVISIONS

- 1.10 The work includes all labor, materials, services, equipment, scaffolding and all operations required to complete the gypsum wallboard finishes in accordance with the drawings and these specifications.
- 1.20 Scaffolding shall be constructed and maintained in strict conformity with applicable laws and ordinances, and so as to avoid interfering with the work of others.
- 1.30 The work shall be properly coordinated with the work of other trades.
- 1.40 Whenever joint treatment adhesive is being mixed or used for applying tape or for laminating one layer of board to another, the temperature in the building shall be maintained at not less than 45 degrees Fahrenheit.

2.00 DEFINITIONS

- 2.10 **Gypsum Wallboard:** Where the term "Gypsum Wallboard" is used it refers to gypsum wallboard as defined in A.S.T.M. Specification C11-58.
- 2.12 **Type "X" (Special Fire Retardant) Gypsum Wallboard:** Wallboard which provides greater fire resistance as defined in A.S.T.M. Specification C36-58.
- 2.14 **Insulating Gypsum Wallboard:** Either Regular or Type "X" Gypsum Wallboard, with foil laminated to the back surface, as defined in A.S.T.M. Specification C36-58.
- 2.20 **Edges:** Where the term "edges" is used, it refers only to the paper-bound edges, usually the long dimension of the gypsum wallboard.
- 2.30 **Ends:** Where the term "ends" is used, it refers to the mill-cut or field-cut ends. At such cuts, the gypsum core is left exposed.
- 2.40 **Nailing Members:** Where the term "nailing members" is used, it refers to those portions of the framing, furring, blocking, etc., which serve as a nailing base to receive the gypsum wallboard. Unless otherwise specified herein, the nailing surface shall be not less than 2 inch nominal width. (See also Section A1.00 of Appendix)

- 2.50 **Horizontal Application:** Where the term "horizontal application" is used, it refers to gypsum wallboard application where the paper-bound edges are applied at right angles to the nailing members.
- 2.60 **Vertical Application:** Where the term "vertical application" is used, it refers to gypsum wallboard application where the paper-bound edges are applied parallel to the nailing members.
- 2.70 **Treated Joints:** Where the term "treated joints" is used, it refers to joints between gypsum wallboards which are reinforced and concealed with joint treatment.
- 2.80 **Untreated Joints:** Where the term "untreated joints" is used, it refers to joints which are left exposed in the finished work, or which may be covered by strips or mouldings.
- 2.90 **Joint Treatment Adhesive:** Where the term "adhesive" is used, in conjunction with joint treatment, it refers to "joint cement, an adhesive."

3.00 MATERIALS

The materials shall conform to the applicable requirements of the following specifications:

- 3.10 **Gypsum Wallboard:** A.S.T.M. Designation C36-58.
- 3.20 **Joint Treatment:** Joint reinforcing and adhesive materials shall be as recommended by the manufacturer of the gypsum wallboard.
- 3.30 **Laminating Adhesive:** Laminating adhesive material shall be as recommended by the manufacturer of the gypsum wallboard.
- 3.40 **Water:** Shall be clean, fresh and suitable for domestic consumption.
- 3.50 **Steel Nails:**
 - 3.52 **GWB-54 (Gypsum Wallboard):** Annular ringed nails complying with the requirements of A.S.T.M. Specification C380-58T.
 - 3.54 4d 14 gage, 1-3/8 in. long, 7/32 in. flat head, diamond point.
 - 5d 13-1/2 gage, 1-5/8 in. long, 15/64 in. flat head, diamond point.
 - 6d 13 gage, 1-7/8 in. long, 1/4 in. flat head, diamond point.

3.60 Nails for single layer application:

Gypsum Wallboard (Thickness)	Nails (To framing or furring of 2 in. or greater nominal thickness)	Nails (To 1 in. nominal thick furring over concrete or masonry)
1/4 in. (for application over existing surfaces)	Flat head, diamond point nail of such length as to give not less than 1 in. penetration into the nailing members.	
3/8 in. Regular or Insulating	1-1/8 in. or 1-1/4 in. GWB-54 or 4d	1-1/8 in. GWB-54 or 4d
1/2 in. Regular or Insulating	1-1/4 in. GWB-54 or 5d	1-1/4 in. GWB-54 or 4d
5/8 in. Regular or Insulating	1-3/8 in. GWB-54 or 6d	1-3/8 in. GWB-54 or 5d
1/2 in. Type "X" and Insulating Type "X"	5d	
5/8 in. Type "X" and Insulating Type "X"	6d	

3.70 Nails for Multiple Layer Installation: (See Section 5.40)

4.00 DELIVERY, HANDLING AND STORAGE

- 4.10 All materials shall be delivered in the original packages, container or bundles bearing the brand name and the name of the manufacturer or the supplier for whom the product is manufactured.
- 4.20 All materials shall be kept dry, preferably by being stored inside the building under roof. Where necessary to store gypsum wallboard outside, it shall be stacked off the ground, properly supported on a strong level platform and fully protected from the weather.
- 4.30 Gypsum wallboard shall be neatly stacked (flat), with care taken to avoid damage to edges, ends and surfaces.

5.00 APPLICATION OF GYPSUM WALLBOARD

- 5.10 General: Note: For framing requirements see Appendix, Section A1.00.
- 5.11 Gypsum wallboard shall be cut by scoring and breaking or by sawing, working from the face side. When cutting by scoring, the face paper shall be cut with a knife or other suitable tool. The gypsum wallboard shall then be snapped back away from the cut face. The back paper can be broken by snapping the gypsum wallboard in the reverse direction or the back paper can be cut. All cut edges and ends of the gypsum wallboard shall be sandpapered, where necessary, in order to obtain neat jointing when the wallboard is erected. Cut-outs for pipes,

fixtures, or other small openings shall be scored in outline before knocking out or shall be cut out with a saw or other suitable tool. Where gypsum wallboard meets projecting surfaces, it shall be scribed neatly.

- 5.13 In single layer installations, all ends and edges of all gypsum wallboard shall occur over nailing members, except that this is not required for treated joints at right angles to framing members in horizontal applications.
- 5.15 Gypsum wallboard shall be applied first to the ceiling and then to the walls. Wallboards of maximum practical lengths shall be used to minimize number of end joints. Boards shall be brought into contact, but shall not be forced into place. Where ends or edges abut, they shall be neatly fitted.
- 5.16 Nails shall be spaced not less than 3/8 inch from edges and ends of wallboard. Nails shall be spaced and driven a maximum of 7 inches on centers on ceilings, and a maximum of 8 inches on centers on walls (See Figure No. 1a) except as shown for "Double Nailing" procedure in Figure No. 1b. Perimeter nailing at the top and bottom is not required. Nails shall not be staggered on adjoining edges or ends. While the nails are being driven, the wallboard shall be held in firm contact with the underlying support. Nailing preferably should proceed from central portion of the wallboard toward ends and edges. The tool used for driving nails shall have a crowned face. The nails shall be driven home with the heads slightly below the surface of the gypsum wallboard, in a dimple formed by the crowned face of the driving tool striking the last blow. A nail set shall not be used and care shall be taken to avoid breaking the paper face.

SINGLE NAILING

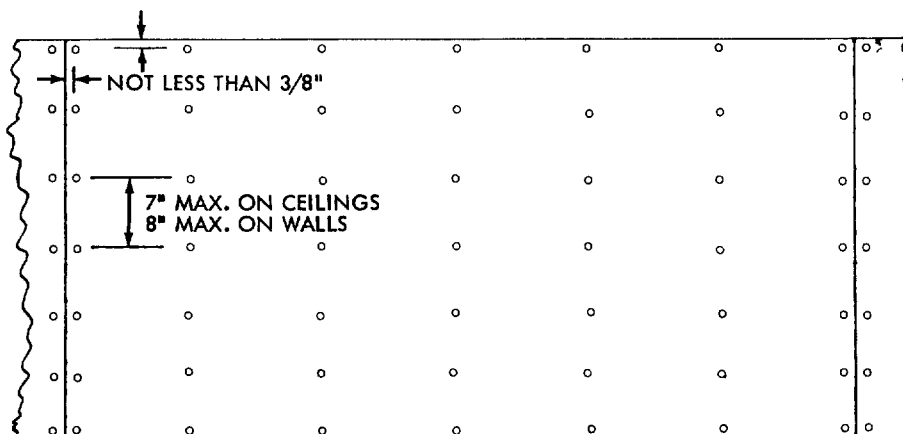


Fig. 1a

NAILS: Nails shall be in accordance with requirements of Paragraph 3.60.

"SINGLE NAILING" SYSTEM PROCEDURE: The wallboard shall be held in firm contact with the nailing member while the nails are being driven. Nailing preferably should proceed from the central portion of each piece of wallboard towards ends and edges. Nails shall not be staggered on adjoining edges or ends. Perimeter nailing at the top and bottom is not required.

DOUBLE NAILING

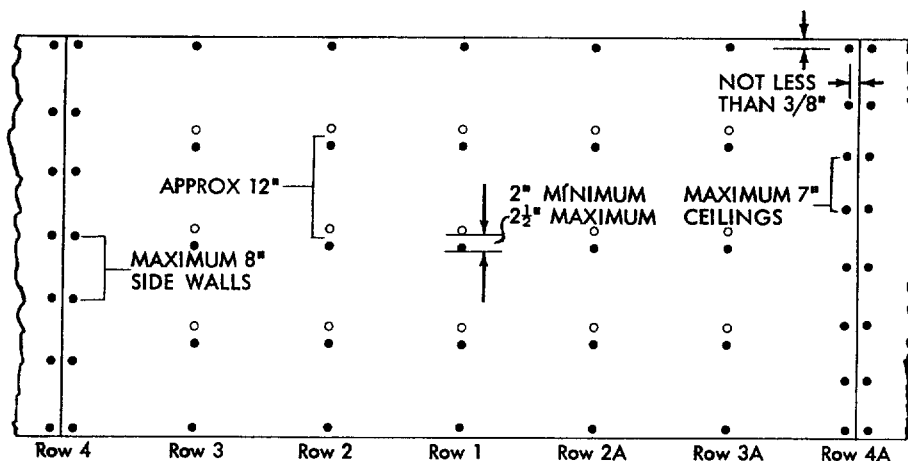


Fig. 1b

NAILS: Nails shall be in accordance with requirements of Paragraph 3.60.

"DOUBLE NAILING" SYSTEM PROCEDURE:

1. Two men are required to nail one ceiling board — one man nails rows 1, 2, 3 and 4; the other nails rows 2A, 3A and 4A.
2. Starting at center of board, nails shown by dot ● are applied in row 1, then rows 2 and 2A, 3 and 3A, 4 and 4A, etc., always nailing from center to edges of sheet.
3. Apply "double" nails shown by circle ○ in the same manner as first nails, also starting at row 1.
4. As alternate procedure, "double" nails may be applied immediately after nailing of first nails in each row is completed according to step "2" above.
5. Use single nails on perimeter of board.

IMPORTANT: All three field (first) nails in each row should be applied before the "double" (second) nails are applied. It may be necessary to "hit" the first nails in each row after the second nail is applied.

5.17 The maximum spacings for nailing members to receive gypsum wallboard constructions shall not exceed those shown in the following tables:

NAILING ONLY

Wallboard Construction	Use	Application	Maximum Spacing Nailing Members
3/8" (Single or two-ply)	Ceilings	Horizontal	16" o.c.
	Sidewalls	Horizontal or vertical	16" o.c.
1/2" single	Ceilings	Vertical	16" o.c.
1/2" single	Ceilings	Horizontal	24" o.c.
1/2" single	Sidewalls	Vertical or horizontal	24" o.c.
1/2" two-ply	Ceilings	Horizontal	24" o.c.
1/2" two-ply	Sidewalls	Vertical or horizontal	24" o.c.
5/8" single	Ceilings	Vertical	16" o.c.
5/8" single	Ceilings	Horizontal	24" o.c.
5/8" single	Sidewalls	Vertical or horizontal	24" o.c.
5/8" two-ply	Ceilings	Horizontal	24" o.c.
5/8" two-ply	Sidewalls	Vertical or horizontal	24" o.c.

TWO-PLY NAILING WITH ADHESIVE BETWEEN LAYERS

Wallboard Construction	Use	Application	Maximum Spacing Nailing Members
Two-ply (3/8")	Ceilings	Base layer horizontal	16" o.c.
Two-ply 1/2" base layer 3/8" face layer	Ceilings	Horizontal	24" o.c.
	Ceilings	Vertical or horizontal	24" o.c.
Two-ply 1/2" or 5/8"	Ceilings	Base layer horizontal	24" o.c.
Two-ply 3/8", 1/2" or 5/8"	Sidewalls	Horizontal or vertical	24" o.c.

5.20 Application direct to framing members or furring strips:

5.22 Joints Treated:

5.222 End joints shall be staggered and joints on opposite sides of a partition shall be arranged to occur on different studs.

5.24 Joints Untreated:

5.242 Unless otherwise specified, square edge, beveled edge and predecorated gypsum wallboard shall be applied vertically. Where the nail heads are to be treated, they shall be driven as specified in Paragraph 5.16. Where they are to be left with no further treatment, they shall be driven flush with the face of the wallboard surface without breaking the paper.

5.244 Wood grained and other predecorated gypsum wallboards shall be applied using a nail with a suitably colored head. These nails shall be driven with a hard rubber mallet or plastic head hammer.

5.26 Ceiling application over wood furring construction:

When gypsum wallboard is nailed to wood cross furring on ceilings these members shall have a minimum cross section of 2" x 2" (nominal) and be spaced in accordance with the requirements of Paragraph 5.17.

5.30 Application over existing plaster or gypsum wallboard surfaces:

5.32 Where gypsum wallboard is used over uneven existing plaster or gypsum wallboard surfaces and joints are to be treated, the wallboard shall be nailed to furring strips as specified in Paragraph 3.60.

5.34 Where existing plaster or gypsum wallboard surfaces are in suitably sound condition and of such nature as to permit proper nailing, the gypsum wallboard may be applied direct. Nails shall be so located and of such length as to penetrate into framing members not less than one inch. They shall be spaced and driven as specified in Paragraph 5.16.

5.40 Two-Ply Gypsum Wallboard Application:

5.42 Adhesive Used Between Layers:

5.422 The two layers may be applied in opposite directions or in parallel direction. Joints in the exposed layer need not occur over supports. If the face layer is to be permanently held in place by adhesive only, the first layer shall be applied as specified for single layer application, except that the nails shall be driven so that their top faces are flush with the surrounding wallboard surface. The adhesive to be used between the two layers of gypsum wallboard shall be spread evenly over the back surface of the face layer of the wallboard before it is erected, using a spreader of design approved by the manufacturer of the gypsum wallboard. Immediately after the adhesive has been spread, the wallboard shall be placed in position and nailed with a sufficient number of nails to hold the wallboard in place until the adhesive develops adequate bond. In lieu of nailing, the second ply of gypsum wallboard may be held in position by shoring with props and headers or other temporary supports to insure adequate pressure for bonding.

5.424 When adequate bond has developed between the wallboards, the temporary supports shall be removed, or, if temporary nailing is used, such nails shall either be: (a) driven home so that their heads are below the surrounding surface of the gypsum wallboard, in a dimple formed by the final blow of the driving tool, or (b) removed, or (c) driven with a nail set so that heads of the nail are well below the surface of the exposed face of the gypsum wallboard. The resulting holes shall be filled flush with joint adhesive.

5.44 No Adhesive Used Between Layers:

Nails for the first layer shall be spaced a maximum of 14" on centers, and shall be of the size and type required for the particular thickness of board when used in single layer application. The face layer shall be nailed with the number of nails required for normal single layer application. Nails used for the face layer shall be long enough to penetrate at least 1-1/8 inches into nailing members. The two layers may be applied in opposite directions or in parallel directions. The nails in the first layer shall be driven home so that their heads are below the surrounding surface of the gypsum wallboard. Nails for the face layer shall be driven as specified in Paragraph 5.16.

5.50 Insulating Gypsum Wallboard:

5.51 The application of insulating gypsum wallboard shall conform to the foregoing specifications for the application of gypsum wallboard. The reflective surface shall be placed against the inside face of the nailing members.

5.52 Insulating gypsum wallboard shall not be used as the backing material in shower stalls or tub enclos-

ures to receive ceramic, plastic, or metal tile, or plastic finished wall panels.

NOTE: To obtain full efficiency as an insulating material, a minimum of 3/4 inch air space shall be provided next to the foil.

6.00 JOINT TREATMENT FOR FIELD JOINTS AND CORNERS

6.20 Treatment for field joints and corners shall be applied in strict accordance with the printed instructions of the manufacturer of the gypsum wallboard. Ample drying time shall be allowed between coats of adhesive and between finish coats and decoration. Before joint treatment is applied the installation shall be inspected to insure that (1) gypsum wallboard is properly nailed and is held tight against the nailing members, and (2) nail heads in the field of the board are slightly below the surrounding surface in dimples formed by the driving tool.

6.30 External Corners: External corners shall be protected and finished with reinforcing joint tape and adhesive or with an approved metal or other type corner protection.

6.40 Arches: Where gypsum wallboard is to be applied to the soffit of arches it shall be carefully bent into place. If necessary, it first shall either be dampened or be kerfed approximately one-inch on centers on the back side. In the latter case, after the core has been broken at each cut, the wallboard shall be applied to the curved contour and nailed in place. At the arrises of the arch, joint adhesive and reinforcing shall be applied in the manner specified for corners, except that the tape shall be snipped at intervals along one side to permit it to conform to the curved contour. Approved metal or other corner protection may be used at these locations.

7.00 STUDLESS SOLID GYPSUM WALLBOARD PARTITIONS

7.10 Solid gypsum wallboard partitions consisting of multiple layers of gypsum wallboard shall be erected in accordance with the printed directions of the manufacturer of the gypsum wallboard.

8.00 TOUCHING UP PRIOR TO DECORATION

8.10 After trim has been applied, and prior to decoration, surface damage and defects shall be corrected (See Appendix, Section A2.00).

9.00 VENTILATION ABOVE GYPSUM WALLBOARD CEILINGS

9.10 Proper ventilation shall be provided (See Appendix, Section A4.00).

APPENDIX A

A0.00 APPENDIX

This Appendix gives general information and also suggestions for inclusion to be made elsewhere by specifier. It is not part of these specifications.

A1.00 FRAMING REQUIREMENTS

The work of framing and furring is not part of these specifications. However, certain requirements covering framing, nailing members, spacing, etc., are essential to provide a proper base to receive the gypsum wallboard. The following requirements should be included in the project specifications for wood framing and furring.

- A1.10 All nailing members should be straight and true and spaced not to exceed the maximum spacings shown in Paragraph 5.17. Framing and bridging members should be adequate to carry the design or code loading. The deflection of horizontal members supporting gypsum wallboard shall not exceed $1/360$ of the span. The nailing surface of any framing or furring member should not vary more than $1/8$ inch from the plane of the faces of adjacent framing or furring members. Headers should be provided as necessary for the support of fixtures. Nailing surfaces shall have a minimum width of $1-1/8$ inches.
- A1.30 Headers are not required to receive joints at right angles to supports in horizontal application that are to be treated with a joint reinforcing system.
- A1.50 All concrete or masonry surfaces that are to receive gypsum wallboard finish should be furred with at least $1" \times 2"$ nominal nailing members.
- A1.70 Nailing flanges of insulating materials should not be attached to the face of the nailing member.

A2.00 DECORATION

- A2.10 It is extremely important that the difference in absorption between the field of the gypsum wallboard and the adhesive over joints or nailheads be equalized to assure uniformity of color and texture over the entire wall. After the gypsum wallboard application has been completed, the surfaces should be sealed and primed as required for subsequent finish.
- A2.20 Wallpaper and similar materials applied adhesively: Wallpaper, or similar materials adhesively applied, should never be applied to gypsum wallboard without first sealing the surface. Sealing provides protection where wetting of the gypsum wallboard may occur. In general, latex or oleo-resinous type sealers, recommended by the gypsum wallboard manufacturer, can be used. Use of a sealer provides protection for the wallboard when removal of the wallpaper becomes necessary.

A3.00 SPECIFICATIONS FOR APPLICATION OF GYPSUM WALLBOARD TO RECEIVE CERAMIC, PLASTIC, METAL TILE, AND PLASTIC FINISHED WALL PANELS BY ADHESIVE APPLICATION

- A3.10 General: The work to be done in application of gypsum wallboard under this specification shall be performed in accordance with the requirements of American Standards Association, Standard Specification for Gypsum Wallboard Finishes A97.1, except as otherwise specified herein.

A3.20 Framing: (See figures A1, A2, and A3)

- A3.21 Framing members shall be plumb and true.

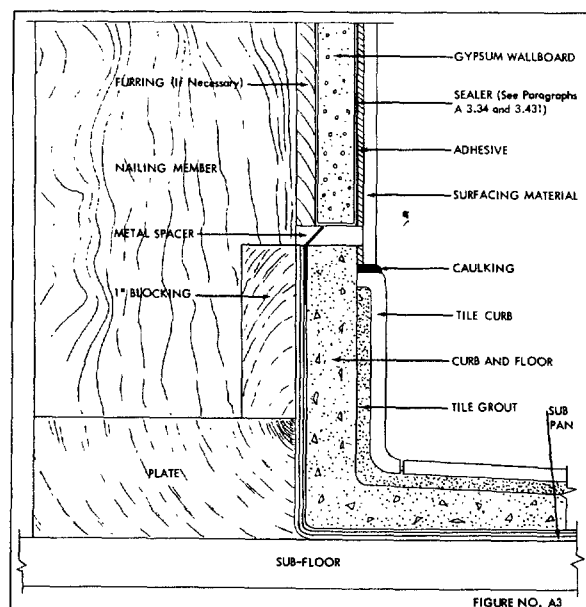
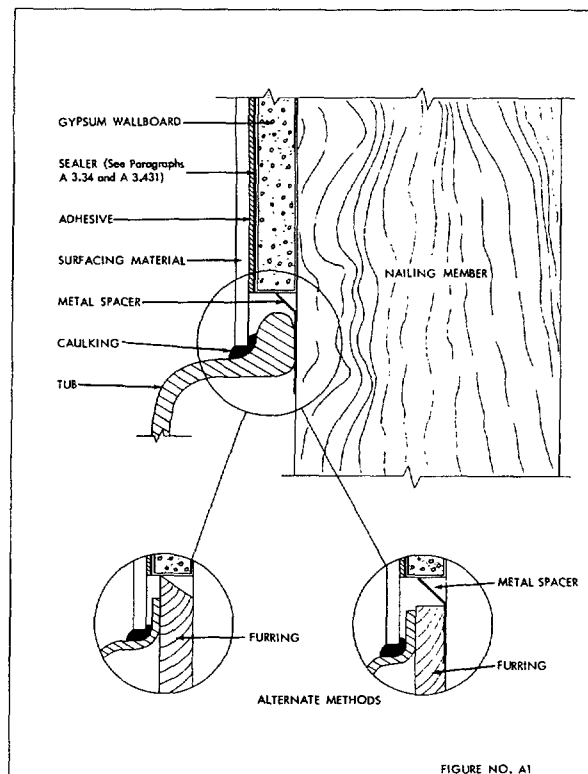
- A3.22 All framing around tub enclosures and shower stalls shall allow sufficient room so that the inside lip of the tub, prefabricated receptor or hot mopped sub-pan shall be even with the face of the gypsum wallboard. This will necessitate furring out from the studs the thickness of the gypsum wallboard to be used ($3/8"$, $1/2"$, $5/8"$) less the thickness of the lip, on each wall abutting a tub, receptor or sub-pan.

- A3.23 Furring of the proper thickness shall be applied as required parallel to the lip of receptor, pan or tub. The top of square cut furring, or if beveled, the start of bevel shall be flush with the upper edge of receptor, sub-pan or tub. (See Figures A1, A2 and A3).

- A3.24 A continuous metal spacer strip as specified under Paragraph A3.33 shall be applied with the $3/4"$ leg behind the furring with the apex of the angle abutting the top surface of the furring and the $3/8"$ leg protruding away from the stud face. If a metal spacer strip is not used, the wood furring must be beveled. (See Figures A1, A2, and A3).

- A3.25 For walls to be surfaced with ceramic tiles over $1/4"$ thick: When $3/8"$ gypsum wallboard is to be used on studs spaced $16"$ o.c. or $1/2"$ or $5/8"$ gypsum wallboard on studs spaced more than $16"$ o.c., suitable blocking shall be installed between all studs. One row of blocking shall be located approximately $1"$ above the top of the tub or receptor and another row at the mid point between the tub and ceiling. Blocking is not required for $3/8"$ gypsum wallboard on studs spaced $12"$ o.c. or less, or for $1/2"$ or $5/8"$ gypsum wallboard on studs spaced $16"$ o.c. or less.

- A3.26 Appropriate blocking, headers or supports shall be provided to support tub, other plumbing fixtures, and to receive soap dishes, grab bars, towel racks and similar items as may be required.



A3.30 Materials:

A3.31 Gypsum wallboard shall be $\frac{3}{8}$ ", $\frac{1}{2}$ " or $\frac{5}{8}$ " in thickness and shall comply with the requirements of ASTM Designation C36 for Gypsum Wallboard.

NOTE: Insulating (foil-backed) gypsum wallboard shall not be used as a backing material in shower stalls or tub enclosures.

A3.32 Materials for treating joints and concealing nail-heads shall be as recommended by the manufacturer of the gypsum wallboard.

A3.33 The metal spacer strip shall be fabricated of 16 gage galvanized steel, with one leg $\frac{3}{4}$ " wide and one leg $\frac{3}{8}$ " wide bent at a 45° angle.

A3.34 The surface sealer shall be either a water resistant adhesive recommended by the manufacturer of the surfacing material or a water resistant sealer as recommended by the manufacturer of the gypsum wallboard. The sealer shall not be applied until after the joints are treated. Shellac shall not be used.

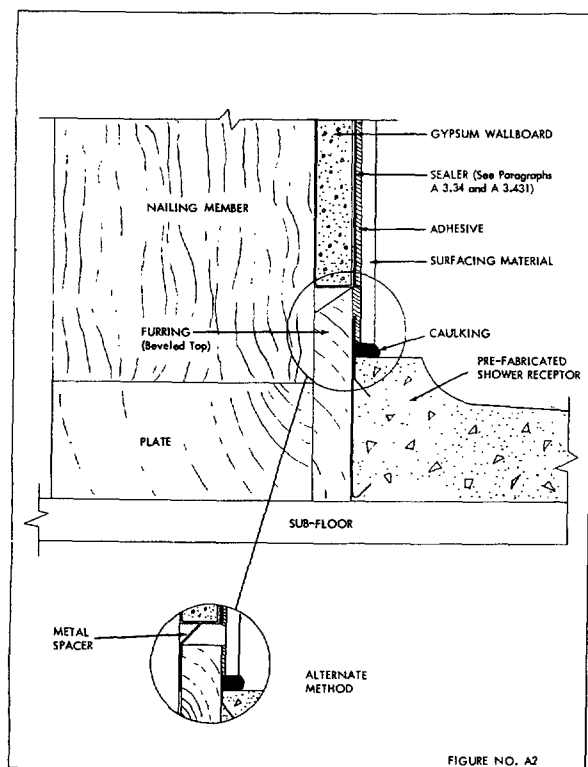
A3.35 The adhesive used for application of the surfacing material shall be approved by the manufacturer of the surfacing material for use over gypsum wallboard.

A3.36 The surfacing material shall provide a durable surface and prevent the passage of free water to the backing material; also, it shall prevent the passage of water vapor which may lead to condensation within or on the surface of the backing material or framing members.

A3.37 Waterproof receptors, pans or sub-pans shall have an upstanding lip or flange which shall be a minimum of 1" higher than the water dam or threshold contained in the entry way to the shower.

A3.40 Application:

A3.41 Shower pans, receptors or tubs shall be installed prior to the erection of the gypsum wallboard. They shall be properly furred away from the framing members as specified in Paragraph A3.22, and installed so that the inside surface of the lip or



upstanding leg of the receptor or pan shall be in alignment with the surface of the gypsum wallboard.

A3.42 Gypsum Wallboard:

A3.421 Gypsum wallboard, 3/8", 1/2", or 5/8" shall be applied horizontally with the factory edge (paper bound) abutting the top edge of the metal spacer strip or beveled furring, which shall allow a minimum of 1/4" space between the lip of the receptor, tub or sub-pan and the gypsum wallboard.

A3.422 Gypsum wallboard shall be nailed as required in the foregoing specification. Where gypsum wallboard is to receive ceramic tile over 1/4" thick, the nails used to attach the gypsum wallboard shall be spaced a maximum of 4" o.c.

A3.423 All joints between adjoining pieces of wallboard, including those at all angle intersections, shall be treated. (See Paragraph 2.70).

A3.43 Application of surfacing material:

A3.431 Prior to the erection of surfacing materials, the approved type of sealer shall be applied to all gypsum wallboard areas including treated joints and angles which are to receive such surfacing materials. When the adhesive is used as a sealer, it shall be applied as a separate operation, independently of the application used to adhere the surfacing material, spreading it in a continuous coating approximately 1/16" thick. All edges of cut-outs made in the gypsum wallboard for pipes, fixtures, etc., shall be sealed in a like manner.

A3.432 Prior to the erection of surfacing materials, all openings around pipes, fixtures, etc., shall be caulked flush with waterproof, non-hardening caulking compound.

A3.433 The surfacing material shall then be applied down to the top surface or edge of the finished shower floor, return, or tub and installed so as to overlap the top lip of receptor, sub-pan or tub.

A3.434 The surfacing material shall be applied so as to completely cover the following areas:

- (a) over tubs without shower heads—6" above the rim of the tub.
- (b) over tubs where showers occur—a minimum of 5 feet above the rim or 6" above the height of the shower head, whichever is higher.
- (c) Shower stalls—a minimum of 6 feet above the shower dam or 6" above the shower head, whichever is higher.
- (d) All jambs in shower stalls shall be covered to a like height.
- (e) The surfacing material shall be carried to the full specified height for a distance of at least 4" beyond the external face of the tub or receptor. Areas beyond an exterior corner are excluded.

A3.435 Where plastic finished wall panels are used as a surfacing material, the following precautions shall be taken:

- (a) Only the type and shape of mouldings recommended by the manufacturer of the surfacing material shall be used. All interior and exterior angles shall be treated with mouldings containing a flange projecting behind the surfacing material on each leg of the angle. Only recommended tub mouldings shall be used at the base where the surfacing materials abut the tub, shower floor, or curb. Such mouldings shall be set in caulking compound.
- (b) A bead of caulking compound shall be applied at the angle formed by the gypsum wallboard backing and the moulding used around the top edge of the surfacing material to prevent leakage of water behind the moulding.

A3.436 Where other types of surfacing materials are used, the following precautions shall be taken:

- (a) All joints shall be filled in such manner as to leave no voids for water penetration.
- (b) Nonsetting caulking compound shall be applied between the wall surfacing materials and the floor of the shower or rim of the tub.
- (c) The angle between the edge and the surfacing material shall likewise be caulked.

A4.00 VENTILATION ABOVE GYPSUM WALLBOARD CEILINGS

A4.10 Attics or similar unheated spaces above gypsum wallboard ceilings shall be adequately ventilated as follows: Provide effective cross ventilation for all spaces between roof and top floor ceilings by screened louvers or other approved and acceptable means. Net ventilating area for each separate space shall be not less than:

A4.20 Roofs with slope 2 in 12 or greater:

A4.21 1/300 of the horizontal projection of the roof area over each space, provided that at least 1/2 of the required ventilating area is in the upper part of the ventilated space, as near the high point of roof as practicable.

A4.22 1/150 of the horizontal projection of the roof area over each space if not in compliance with Paragraph 4.21.

A4.30 Roofs with slope less than 2 in 12:

A4.31 1/300 of the horizontal projection of the roof area if a completely continuous vapor-barrier is provided.

A4.32 1/150 of the horizontal projection of the roof area if such a vapor-barrier is not provided.

NOTE: A vapor-barrier is a material having a vapor permeability not exceeding one (1) perm.